

**Amendments to the Claims:**

1. **(Currently amended)** A brushless motor comprising a rotor having a magnet with an axial length of  $L_M$  and a stator having a stator core provided with a plurality of teeth arranged peripherally vis-à-vis said magnet with an air gap interposed between them and said magnet and having auxiliary grooves formed at the front ends thereof,

wherein said stator core and said magnet are arranged such that the axial length  $L_s$  of said stator core ~~being~~ is greater than the axial length  $L_M$  of said magnet ( $L_s > L_M$ ), and said stator core is provided with overhanging portions thereof that are not vis-à-vis the magnet but axially outstanding from the respective axial ends of the magnet, so as to prevent magnetic flux from flowing into said stator core through axial end faces thereof.

Claim 2 **(Canceled)**

3. **(Currently amended)** A brushless motor according to claim-2 ~~1~~, wherein the overhanging portions have an axial length  $X$  between 0.5 mm and 8.0 mm.

4. **(Currently amended)** A brushless motor according to claim 1, wherein the center of each of said auxiliary grooves of each of said teeth is located on a radial line ~~prolonged~~ extending from the corresponding circumferential end face of the teeth.

5. **(Original)** A brushless motor according to claim 1, wherein said auxiliary grooves are made to have a width equal to the width of the slots separating adjacent teeth.

6. **(Currently amended)** A brushless motor according to claim 1, adapted to be used as a drive source of an electric power steering device.

7. **(New)** A brushless motor according to claim 4, wherein the center position of said auxiliary groove is located at a position where the magnetic flux shows a high density along the front end of said teeth, and a magnetic path of reactive magnetic flux of an armature is narrowed and a magnetic path resistance becomes large.

8. **(New)** A brushless motor comprising:

a rotor having a magnet and a rotor core, each of said magnet and said rotor core having an axial length of  $L_M$ ;

a stator having a stator core provided with a plurality of teeth arranged peripherally vis-à-vis said magnet with an air gap interposed between them and said magnet and having auxiliary grooves formed at the front ends thereof;

wherein the axial length  $L_s$  of said stator core is greater than the axial length  $L_M$  of said magnet and said rotor core ( $L_s > L_M$ ); and

wherein said stator core is provided with overhanging portions thereof that are not vis-à-vis the magnet but axially outstanding from the respective axial ends of the magnet.

9. **(New)** A brushless motor according to claim 8, wherein said rotor core is disposed radially inwardly of said magnet.

10. **(New)** A brushless motor according to claim 8, wherein the overhanging portions have an axial length  $X$  between 0.5 mm and 8.0 mm.

11. **(New)** A brushless motor according to claim 8, wherein the center of each of said auxiliary grooves of each of said teeth is located on a radial line extending from the corresponding circumferential end face of the teeth.

12. **(New)** A brushless motor according to claim 8, wherein

said auxiliary grooves are made to have a width equal to the width of the slots separating adjacent teeth.

13. **(New)** A brushless motor according to claim 8, adapted to be used as a drive source of an electric power steering device.

14. **(New)** A brushless motor according to claim 8, wherein the center position of said auxiliary groove is located at a position where the magnetic flux shows a high density along the front end of said teeth, and a magnetic path of reactive magnetic flux of an armature is narrowed and a magnetic path resistance becomes large.